



SEQUENCE LISTING

<110> Spertini, Francois  
Corthesy, Blaise

<120> Allergen Peptide Fragments and Use Thereof

<130> 25720-502

<140> 10/799,514

<141> 2004-03-12

<150> 60/455,004

<151> 2003-03-14

<160> 23

<170> PatentIn Ver. 2.1

<210> 1

<211> 60

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 1

Ile Ile Tyr Pro Gly Thr Leu Trp Cys Gly His Gly Asn Lys Ser Ser  
1 5 10 15

Gly Pro Asn Glu Leu Gly Arg Phe Lys His Thr Asp Ala Cys Cys Arg  
20 25 30

Thr His Asp Met Cys Pro Asp Val Met Ser Ala Gly Glu Ser Lys His  
35 40 45

Gly Leu Thr Asn Thr Ala Ser His Thr Arg Leu Ser  
50 55 60

<210> 2

<211> 53

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 2

Lys His Gly Leu Thr Asn Thr Ala Ser His Thr Arg Leu Ser Cys Asp  
1 5 10 15

Cys Asp Asp Lys Phe Tyr Asp Cys Leu Lys Asn Ser Ala Asp Thr Ile  
20 25 30

Ser Ser Tyr Phe Val Gly Lys Met Tyr Phe Asn Leu Ile Asp Thr Lys  
35 40 45

Cys Tyr Lys Leu Glu  
50

<210> 3  
<211> 45  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 3  
Leu Ile Asp Thr Lys Cys Tyr Lys Leu Glu His Pro Val Thr Gly Cys  
1 5 10 15  
Gly Glu Arg Thr Glu Gly Arg Cys Leu His Tyr Thr Val Asp Lys Ser  
20 25 30  
Lys Pro Lys Val Tyr Gln Trp Phe Asp Leu Arg Lys Tyr  
35 40 45

<210> 4  
<211> 134  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 4  
Ile Ile Tyr Pro Gly Thr Leu Trp Cys Gly His Gly Asn Lys Ser Ser  
1 5 10 15  
Gly Pro Asn Glu Leu Gly Arg Phe Lys His Thr Asp Ala Cys Cys Arg  
20 25 30  
Thr His Asp Met Cys Pro Asp Val Met Ser Ala Gly Glu Ser Lys His  
35 40 45  
Gly Leu Thr Asn Thr Ala Ser His Thr Arg Leu Ser Cys Asp Cys Asp  
50 55 60  
Asp Lys Phe Tyr Asp Cys Leu Lys Asn Ser Ala Asp Thr Ile Ser Ser  
65 70 75 80  
Tyr Phe Val Gly Lys Met Tyr Phe Asn Leu Ile Asp Thr Lys Cys Tyr  
85 90 95  
Lys Leu Glu His Pro Val Thr Gly Cys Gly Glu Arg Thr Glu Gly Arg  
100 105 110  
Cys Leu His Tyr Thr Val Asp Lys Ser Lys Pro Lys Val Tyr Gln Trp  
115 120 125  
Phe Asp Leu Arg Lys Tyr  
130

<210> 5  
 <211> 125  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic Peptide

<400> 5  
 Met Gly Val Phe Asn Tyr Glu Thr Glu Ala Thr Ser Val Ile Pro Ala  
 1 5 10 15  
 Ala Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Phe Pro  
 20 25 30  
 Lys Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn  
 35 40 45  
 Gly Gly Pro Gly Thr Ile Lys Lys Ile Ser Phe Pro Glu Gly Phe Pro  
 50 55 60  
 Phe Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe  
 65 70 75 80  
 Lys Tyr Asn Tyr Ser Val Ile Glu Gly Gly His Pro Val Thr Gly Cys  
 85 90 95  
 Gly Glu Arg Thr Glu Gly Arg Cys Leu His Tyr Thr Val Asp Lys Ser  
 100 105 110  
 Lys Pro Lys Val Tyr Gln Trp Phe Asp Leu Arg Lys Tyr  
 115 120 125

<210> 6  
 <211> 80  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic Peptide

<400> 6  
 Lys Tyr Asn Tyr Ser Val Ile Glu Gly Gly Pro Ile Gly Asp Thr Leu  
 1 5 10 15  
 Glu Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asp Gly Gly  
 20 25 30  
 Ser Ile Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asp His Glu  
 35 40 45  
 Val Lys Ala Glu Gln Val Lys Ala Ser Lys Glu Met Gly Glu Thr Leu  
 50 55 60  
 Leu Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn  
 65 70 75 80

<210> 7  
 <211> 160  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 Peptide

<400> 7  
 Met Gly Val Phe Asn Tyr Glu Thr Glu Ala Thr Ser Val Ile Pro Ala  
 1 5 10 15  
 Ala Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Phe Pro  
 20 25 30  
 Lys Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn  
 35 40 45  
 Gly Gly Pro Gly Thr Ile Lys Lys Ile Ser Phe Pro Glu Gly Phe Pro  
 50 55 60  
 Phe Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe  
 65 70 75 80  
 Lys Tyr Asn Tyr Ser Val Ile Glu Gly Gly Pro Ile Gly Asp Thr Leu  
 85 90 95  
 Glu Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asp Gly Gly  
 100 105 110  
 Ser Ile Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asp His Glu  
 115 120 125  
 Val Lys Ala Glu Gln Val Lys Ala Ser Lys Glu Met Gly Glu Thr Leu  
 130 135 140  
 Leu Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn  
 145 150 155 160

<210> 8  
 <211> 70  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 Peptide

<400> 8  
 Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Ser Asp Ile Asp  
 1 5 10 15

Gly Gln Ala Ser Asn Ser Leu Ala Ser Ala Ile Val Gly His Asp Gly  
                   20                  25                  30  
 Ser Val Trp Ala Gln Ser Ser Ser Phe Pro Gln Phe Lys Pro Gln Glu  
                   35                  40                  45  
 Ile Thr Gly Ile Met Lys Asp Phe Glu Glu Pro Gly His Leu Ala Pro  
                   50                  55                  60  
 Thr Gly Leu His Leu Gly  
                   65                  70

<210> 9  
 <211> 73  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
                   Peptide

<400> 9  
 His Leu Ala Pro Thr Gly Leu His Leu Gly Gly Ile Lys Tyr Met Val  
                   1                  5                  10                  15  
 Ile Gln Gly Glu Ala Gly Ala Val Ile Arg Gly Lys Lys Gly Ser Gly  
                   20                  25                  30  
 Gly Ile Thr Ile Lys Lys Thr Gly Gln Ala Leu Val Phe Gly Ile Tyr  
                   35                  40                  45  
 Glu Glu Pro Val Thr Pro Gly Gln Ser Asn Met Val Val Glu Arg Leu  
                   50                  55                  60  
 Gly Asp Tyr Leu Ile Asp Gln Gly Leu  
                   65                  70

<210> 10  
 <211> 133  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
                   Peptide

<400> 10  
 Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Ser Asp Ile Asp  
                   1                  5                  10                  15  
 Gly Gln Ala Ser Asn Ser Leu Ala Ser Ala Ile Val Gly His Asp Gly  
                   20                  25                  30  
 Ser Val Trp Ala Gln Ser Ser Ser Phe Pro Gln Phe Lys Pro Gln Glu  
                   35                  40                  45  
 Ile Thr Gly Ile Met Lys Asp Phe Glu Glu Pro Gly His Leu Ala Pro  
                   50                  55                  60

Thr Gly Leu His Leu Gly Gly Ile Lys Tyr Met Val Ile Gln Gly Glu  
 65 70 75 80  
 Ala Gly Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr Ile  
 85 90 95  
 Lys Lys Thr Gly Gln Ala Leu Val Phe Gly Ile Tyr Glu Glu Pro Val  
 100 105 110  
 Thr Pro Gly Gln Ser Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu  
 115 120 125  
 Ile Asp Gln Gly Leu  
 130

<210> 11  
 <211> 81  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 Peptide

<400> 11  
 Thr Asn Ala Cys Ser Ile Asn Gly Asn Ala Pro Ala Glu Ile Asp Leu  
 1 5 10 15  
 Arg Gln Met Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly Cys Gly  
 20 25 30  
 Ser Cys Trp Ala Phe Ser Gly Val Ala Ala Thr Glu Ser Ala Tyr Leu  
 35 40 45  
 Ala Tyr Arg Asn Gln Ser Leu Asp Leu Ala Glu Gln Glu Leu Val Asp  
 50 55 60  
 Cys Ala Ser Gln His Gly Cys His Gly Asp Thr Ile Pro Arg Gly Ile  
 65 70 75 80  
 Glu

<210> 12  
 <211> 86  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 Peptide

<400> 12  
 Ser Gln His Gly Cys His Gly Asp Thr Ile Pro Arg Gly Ile Glu Tyr  
 1 5 10 15  
 Ile Gln His Asn Gly Val Val Gln Glu Ser Tyr Tyr Arg Tyr Val Ala  
 20 25 30

Arg Glu Gln Ser Cys Arg Arg Pro Asn Ala Gln Arg Phe Gly Ile Ser  
35 40 45

Asn Tyr Cys Gln Ile Tyr Pro Pro Asn Val Asn Lys Ile Arg Glu Ala  
50 55 60

Leu Ala Gln Thr His Ser Ala Ile Ala Val Ile Ile Gly Ile Lys Asp  
65 70 75 80

Leu Asp Ala Phe Arg His  
85

<210> 13  
<211> 86  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 13  
Ala Ile Ala Val Ile Ile Gly Ile Lys Asp Leu Asp Ala Phe Arg His  
1 5 10 15

Tyr Asp Gly Arg Thr Ile Ile Gln Arg Asp Asn Gly Tyr Gln Pro Asn  
20 25 30

Tyr His Ala Val Asn Ile Val Gly Tyr Ser Asn Ala Gln Gly Val Asp  
35 40 45

Tyr Trp Ile Val Arg Asn Ser Trp Asp Thr Asn Trp Gly Asp Asn Gly  
50 55 60

Tyr Gly Tyr Phe Ala Ala Asn Ile Asp Leu Met Met Ile Glu Glu Tyr  
65 70 75 80

Pro Tyr Val Val Ile Leu  
85

<210> 14  
<211> 222  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 14  
Thr Asn Ala Cys Ser Ile Asn Gly Asn Ala Pro Ala Glu Ile Asp Leu  
1 5 10 15

Arg Gln Met Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly Cys Gly  
20 25 30

Ser Cys Trp Ala Phe Ser Gly Val Ala Ala Thr Glu Ser Ala Tyr Leu  
35 40 45

Ala Tyr Arg Asn Gln Ser Leu Asp Leu Ala Glu Gln Glu Leu Val Asp  
 50 55 60  
 Cys Ala Ser Gln His Gly Cys His Gly Asp Thr Ile Pro Arg Gly Ile  
 65 70 75 80  
 Glu Tyr Ile Gln His Asn Gly Val Val Gln Glu Ser Tyr Tyr Arg Tyr  
 85 90 95  
 Val Ala Arg Glu Gln Ser Cys Arg Arg Pro Asn Ala Gln Arg Phe Gly  
 100 105 110  
 Ile Ser Asn Tyr Cys Gln Ile Tyr Pro Pro Asn Val Asn Lys Ile Arg  
 115 120 125  
 Glu Ala Leu Ala Gln Thr His Ser Ala Ile Ala Val Ile Ile Gly Ile  
 130 135 140  
 Lys Asp Leu Asp Ala Phe Arg His Tyr Asp Gly Arg Thr Ile Ile Gln  
 145 150 155 160  
 Arg Asp Asn Gly Tyr Gln Pro Asn Tyr His Ala Val Asn Ile Val Gly  
 165 170 175  
 Tyr Ser Asn Ala Gln Gly Val Asp Tyr Trp Ile Val Arg Asn Ser Trp  
 180 185 190  
 Asp Thr Asn Trp Gly Asp Asn Gly Tyr Gly Tyr Phe Ala Ala Asn Ile  
 195 200 205  
 Asp Leu Met Met Ile Glu Glu Tyr Pro Tyr Val Val Ile Leu  
 210 215 220

<210> 15

<211> 72

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic Peptide

<400> 15

Asp Gln Val Asp Val Lys Asp Cys Ala Asn His Glu Ile Lys Lys Val  
 1 5 10 15  
 Leu Val Pro Gly Cys His Gly Ser Glu Pro Cys Ile Ile His Arg Gly  
 20 25 30  
 Lys Pro Phe Gln Leu Glu Ala Val Phe Glu Ala Asn Gln Asn Thr Lys  
 35 40 45  
 Thr Ala Lys Ile Glu Ile Lys Ala Ser Ile Asp Gly Leu Glu Val Asp  
 50 55 60  
 Val Pro Gly Ile Asp Pro Asn Ala  
 65 70

<210> 16



<211> 73  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic Peptide

<400> 16

Ser Ile Asp Gly Leu Glu Val Asp Val Pro Gly Ile Asp Pro Asn Ala  
 1 5 10 15

Cys His Tyr Met Lys Cys Pro Leu Val Lys Gly Gln Gln Tyr Asp Ile  
 20 25 30

Lys Tyr Thr Trp Asn Val Pro Lys Ile Ala Pro Lys Ser Glu Asn Val  
 35 40 45

Val Val Thr Val Lys Val Met Gly Asp Asp Gly Val Leu Ala Cys Ala  
 50 55 60

Ile Ala Thr His Ala Lys Ile Arg Asp  
 65 70

<210> 17

<211> 136

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic Peptide

<400> 17

Leu Val Ala Ala Val Ala Arg Asp Gln Val Asp Val Lys Asp Cys Ala  
 1 5 10 15

Asn His Glu Ile Lys Lys Val Leu Val Pro Gly Cys His Gly Ser Glu  
 20 25 30

Pro Cys Ile Ile His Arg Gly Lys Pro Phe Gln Leu Glu Ala Val Phe  
 35 40 45

Glu Ala Asn Gln Asn Thr Lys Thr Ala Lys Ile Glu Ile Lys Ala Ser  
 50 55 60

Ile Asp Gly Leu Glu Val Asp Val Pro Gly Ile Asp Pro Asn Ala Cys  
 65 70 75 80

His Tyr Met Lys Cys Pro Leu Val Lys Gly Gln Gln Tyr Asp Ile Lys  
 85 90 95

Tyr Thr Trp Asn Val Pro Lys Ile Ala Pro Lys Ser Glu Asn Val Val  
 100 105 110

Val Thr Val Lys Val Met Gly Asp Asp Gly Val Leu Ala Cys Ala Ile  
 115 120 125

Ala Thr His Ala Lys Ile Arg Asp  
 130 135

<210> 18  
 <211> 195  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic Peptide

<400> 18  
 Met Gly Val Phe Asn Tyr Glu Thr Glu Ala Thr Ser Val Ile Pro Ala  
 1 5 10 15  
 Ala Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Phe Pro  
 20 25 30  
 Lys Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn  
 35 40 45  
 Gly Gly Pro Gly Thr Ile Lys Lys Ile Ser Phe Pro Glu Gly Phe Pro  
 50 55 60  
 Phe Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe  
 65 70 75 80  
 Lys Tyr Asn Tyr Ser Val Ile Glu Gly Gly His Pro Val Thr Gly Cys  
 85 90 95  
 Gly Glu Arg Thr Glu Gly Arg Cys Leu His Tyr Thr Val Asp Lys Ser  
 100 105 110  
 Lys Pro Lys Val Tyr Gln Trp Phe Asp Leu Arg Lys Tyr Met Ser Trp  
 115 120 125  
 Gln Thr Tyr Val Asp Glu His Leu Met Ser Asp Ile Asp Gly Gln Ala  
 130 135 140  
 Ser Asn Ser Leu Ala Ser Ala Ile Val Gly His Asp Gly Ser Val Trp  
 145 150 155 160  
 Ala Gln Ser Ser Ser Phe Pro Gln Phe Lys Pro Gln Glu Ile Thr Gly  
 165 170 175  
 Ile Met Lys Asp Phe Glu Glu Pro Gly His Leu Ala Pro Thr Gly Leu  
 180 185 190  
 His Leu Gly  
 195

<210> 19  
 <211> 153  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic Peptide

<400> 19  
 His Leu Ala Pro Thr Gly Leu His Leu Gly Gly Ile Lys Tyr Met Val  
 1 5 10 15  
 Ile Gln Gly Glu Ala Gly Ala Val Ile Arg Gly Lys Lys Gly Ser Gly  
 20 25 30  
 Gly Ile Thr Ile Lys Lys Thr Gly Gln Ala Leu Val Phe Gly Ile Tyr  
 35 40 45  
 Glu Glu Pro Val Thr Pro Gly Gln Ser Asn Met Val Val Glu Arg Leu  
 50 55 60  
 Gly Asp Tyr Leu Ile Asp Gln Gly Leu Lys Tyr Asn Tyr Ser Val Ile  
 65 70 75 80  
 Glu Gly Gly Pro Ile Gly Asp Thr Leu Glu Lys Ile Ser Asn Glu Ile  
 85 90 95  
 Lys Ile Val Ala Thr Pro Asp Gly Gly Ser Ile Leu Lys Ile Ser Asn  
 100 105 110  
 Lys Tyr His Thr Lys Gly Asp His Glu Val Lys Ala Glu Gln Val Lys  
 115 120 125  
 Ala Ser Lys Glu Met Gly Glu Thr Leu Leu Arg Ala Val Glu Ser Tyr  
 130 135 140  
 Leu Leu Ala His Ser Asp Ala Tyr Asn  
 145 150

<210> 20  
 <211> 195  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 Peptide

<400> 20  
 Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Ser Asp Ile Asp  
 1 5 10 15  
 Gly Gln Ala Ser Asn Ser Leu Ala Ser Ala Ile Val Gly His Asp Gly  
 20 25 30  
 Ser Val Trp Ala Gln Ser Ser Ser Phe Pro Gln Phe Lys Pro Gln Glu  
 35 40 45  
 Ile Thr Gly Ile Met Lys Asp Phe Glu Glu Pro Gly His Leu Ala Pro  
 50 55 60  
 Thr Gly Leu His Leu Gly Met Gly Val Phe Asn Tyr Glu Thr Glu Ala  
 65 70 75 80  
 Thr Ser Val Ile Pro Ala Ala Arg Leu Phe Lys Ala Phe Ile Leu Asp  
 85 90 95  
 Gly Asp Asn Leu Phe Pro Lys Val Ala Pro Gln Ala Ile Ser Ser Val



<210> 22  
 <211> 153  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic Peptide

<400> 22  
 Asp Gln Val Asp Val Lys Asp Cys Ala Asn His Glu Ile Lys Lys Val  
 1 5 10 15  
 Leu Val Pro Gly Cys His Gly Ser Glu Pro Cys Ile Ile His Arg Gly  
 20 25 30  
 Lys Pro Phe Gln Leu Glu Ala Val Phe Glu Ala Asn Gln Asn Thr Lys  
 35 40 45  
 Thr Ala Lys Ile Glu Ile Lys Ala Ser Ile Asp Gly Leu Glu Val Asp  
 50 55 60  
 Val Pro Gly Ile Asp Pro Asn Ala Thr Asn Ala Cys Ser Ile Asn Gly  
 65 70 75 80  
 Asn Ala Pro Ala Glu Ile Asp Leu Arg Gln Met Arg Thr Val Thr Pro  
 85 90 95  
 Ile Arg Met Gln Gly Gly Cys Gly Ser Cys Trp Ala Phe Ser Gly Val  
 100 105 110  
 Ala Ala Thr Glu Ser Ala Tyr Leu Ala Tyr Arg Asn Gln Ser Leu Asp  
 115 120 125  
 Leu Ala Glu Gln Glu Leu Val Asp Cys Ala Ser Gln His Gly Cys His  
 130 135 140  
 Gly Asp Thr Ile Pro Arg Gly Ile Glu  
 145 150

<210> 23  
 <211> 159  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic Peptide

<400> 23  
 Ala Ile Ala Val Ile Ile Gly Ile Lys Asp Leu Asp Ala Phe Arg His  
 1 5 10 15  
 Tyr Asp Gly Arg Thr Ile Ile Gln Arg Asp Asn Gly Tyr Gln Pro Asn  
 20 25 30  
 Tyr His Ala Val Asn Ile Val Gly Tyr Ser Asn Ala Gln Gly Val Asp  
 35 40 45

Tyr	Trp	Ile	Val	Arg	Asn	Ser	Trp	Asp	Thr	Asn	Trp	Gly	Asp	Asn	Gly
50						55					60				
Tyr	Gly	Tyr	Phe	Ala	Ala	Asn	Ile	Asp	Leu	Met	Met	Ile	Glu	Glu	Tyr
65					70					75					80
Pro	Tyr	Val	Val	Ile	Leu	Ser	Ile	Asp	Gly	Leu	Glu	Val	Asp	Val	Pro
				85					90					95	
Gly	Ile	Asp	Pro	Asn	Ala	Cys	His	Tyr	Met	Lys	Cys	Pro	Leu	Val	Lys
			100					105					110		
Gly	Gln	Gln	Tyr	Asp	Ile	Lys	Tyr	Thr	Trp	Asn	Val	Pro	Lys	Ile	Ala
		115					120					125			
Pro	Lys	Ser	Glu	Asn	Val	Val	Val	Thr	Val	Lys	Val	Met	Gly	Asp	Asp
	130					135					140				
Gly	Val	Leu	Ala	Cys	Ala	Ile	Ala	Thr	His	Ala	Lys	Ile	Arg	Asp	
145					150					155					